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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,134	11/26/2003	Manfred Malik	003375.P021	9456

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EXAMINER

PHAN, HAU VAN

ART UNIT	PAPER NUMBER
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3618

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/723,134	<b>Applicant(s)</b> MALIK, MANFRED	
	<b>Examiner</b> Hau V Phan	<b>Art Unit</b> 3618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/26/2003</u> | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Information Disclosure Statement*

2. The information disclosure statement (IDS) submitted on 11/26/2003 has been considered.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Obayashi (6,624,529).**

Obayashi in figures 1 and 4, discloses a vehicular power supply system comprising a combustion engine (100), an electric machine (1), a battery (3, short time storage device) and a second battery (4, long time storage device), wherein the

combustion engine and the electric machine are mechanically coupled and arranged to jointly apply a drive torque to a drive when high performance is require. Wherein the drive system is arranged such that the long-time storage and the short-time storage are charged with different charging voltages, wherein the charging voltage of the long-time storage is lower than that of the short-time storage. Wherein the short-time storage and the long-time storage are coupled by an electric valve such that, upon a supply of power to the electric machine. The electric machine is initially only supplied from the short-time storage rather than the long-time storage, thus resulting in a decrease of the voltage of the short-time storage, and that, when the voltage of the short-time storage equals or drops below the voltage of the long-time storage, the electric valve connects the short-time storage in parallel, thereby causing the subsequent supply of the electric machine to be made current from both the short-time storage and the long-time storage, wherein the supply current from the long-time storage flows through the electric valve.

Regarding claim 2, Obayashi discloses the electric valve comprising a diode.

Regarding claim 3, Obayashi discloses the electric valve comprising an electric switch controlled by a control.

Regarding claim 4, Obayashi discloses the short-time storage comprising capacitor storage.

Regarding claim 5, Obayashi discloses the charging voltage of the long-time storage that does not exceed 65% of the charging voltage of the short-time storage.

Regarding claim 6, Obayashi discloses a down converter reducing the charging voltage of the long-time storage is connected between the short-time storage and the long-time storage.

Regarding claim 7, Obayashi discloses the electric machine, which is a rotary field machine controlled by a current inverter with a direct current intermediate circuit, and the short-time storage is connected in the intermediate circuit.

Regarding claim 8, Obayashi discloses not only the short-time storage and the long-time storage, but also an additional electrical system long-time storage.

Regarding claim 9, Obayashi discloses not only the short-time storage and the long-time storage, but also an additional electrical system long-time storage, and wherein the electrical system long-time storage is connected with the intermediate circuit by means of a down converter.

Regarding claim 10, Obayashi discloses the electric machine that is seated on the crankshaft of the combustion engine and is permanently connected with it.

Regarding claim 11, Obayashi discloses the electric machine permanently rotates at the same rotary frequency as the combustion engine.

Regarding claim 12, Obayashi discloses the electric machine that is also designed as a direct starter.

Regarding claim 13, Obayashi discloses the electric machine that is also designed as a generator.

Regarding claim 14, Obayashi discloses the electric machine also functions as a recovery brake, wherein the electric energy recovered from the recovery brake process is at least in part stored in the short-time storage.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**6. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pels et al. (6,543,561) in view of Rey (3,823,358).**

Pels et al. disclose a drive system for a motor vehicle comprising a combustion engine (1), an electric motor (6), a short time storage device (10) and a long time storage device (12). The combustion engine and the electric motor are mechanically coupled and arranged to jointly apply a drive torque to a drive when high performance is require. Wherein the drive system is arranged such that the long-time storage and the short-time storage are charged with different charging voltages, wherein the charging voltage of the long-time storage is lower than that of the short-time storage. Wherein the short-time storage and the long-time storage are coupled by an electric valve such that, upon a supply of power to the electric machine. Pels et al. fail to show the electric motor that is initially only supplied from the short time storage rather than the long time storage.

Rey in figure 1, teaches a battery peaking unit for fuel cell power plants comprising a fuel cell (10), a battery (20). The fuel cell has a voltage higher than the a voltage of the battery. Rey also teaches a motor, which is initially supplied from the fuel cell rather than the battery, thus resulting in a decrease of the fuel cell voltage to equal or below the voltage of the battery. The battery is then supplies the additional motor starting current in order to maintain sufficient voltage for operation of the motor. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the drive system of Pels et al. with the system having a fuel cell and a battery as taught by Rey in order to maintain sufficient voltage for operation of the electric machine.

Regarding claim 2, Rey discloses the electric valve comprising a diode (22).

Regarding claim 3, Rey discloses the electric valve comprising an electric switch (24) controlled by a control.

Regarding claim 4, Rey discloses the short-time storage comprising capacitor storage.

Regarding claim 5, Rey discloses the charging voltage of the long-time storage that does not exceed 65% of the charging voltage of the short-time storage.

Regarding claim 6, Rey discloses a down converter reducing the charging voltage of the long-time storage is connected between the short-time storage and the long-time storage.

Regarding claim 7, Rey discloses the electric machine, which is a rotary field machine controlled by a current inverter with a direct current intermediate circuit, and the short-time storage is connected in the intermediate circuit.

Regarding claim 8, Rey discloses not only the short-time storage and the long-time storage, but also an additional electrical system long-time storage.

Regarding claim 9, Rey discloses not only the short-time storage and the long-time storage, but also an additional electrical system long-time storage, and wherein the electrical system long-time storage is connected with the intermediate circuit by means of a down converter.

Regarding claim 10, Pels et al. disclose the electric machine that is seated on the crankshaft of the combustion engine and is permanently connected with it.

Regarding claim 11, Pels et al. disclose the electric machine permanently rotates at the same rotary frequency as the combustion engine.

Regarding claim 12, Pels et al. disclose the electric machine that is also designed as a direct starter.

Regarding claim 13, Pels et al. discloses the electric machine that is also designed as a generator.

Regarding claim 14, Pels et al. disclose the electric machine also functions as a recovery brake, wherein the electric energy recovered from the recovery brake process is at least in part stored in the short-time storage.



**Conclusion**

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kristiansson discloses a sure start device for internal combustion engine, Hirota discloses a hybrid battery electric drive, Winebrener discloses a power control system, Azuma et al. disclose a fuel cell/battery hybrid power system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hau V Phan whose telephone number is 703-308-2084. The examiner can normally be reached on 7:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christ Ellis can be reached on 703-308-2560. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Hau Phan*  
*12/5/04*

Hau V Phan  
Examiner  
Art Unit 3618

**HAU PHAN**  
**PATENT EXAMINER**